

nerves normal. Tender calves with loss of sensation to pin-prick over stocking area. Stepping gait, with weakness at ankle and knee. No wasting. Knee and ankle jerks absent. No pyrexia. Urine and cerebro-spinal fluid normal. Wassermann reaction negative. Left antrum contained pus +, and drained. Result : recovery.

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## End-Results of Intensive Alkaline Treatment of Gastric and Duodenal Ulcer

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THIS brief communication is an attempt to answer the question : "What happens to people who leave hospital after a course of intensive alkaline treatment for the relief or cure of gastric or duodenal ulcer?"

On consulting the hospital records, I found that in the five years 1927-31, ninety-one persons had been so treated in wards 5 and 6. I was surprised to find that in only seventeen of these had a diagnosis of gastric ulcer been made, while duodenal ulcer had been the diagnosis in seventy-four. The age and sex distribution was—Gastric ulcer : males twelve (average age 43.6), females five (average age 38.9). I had expected a much higher proportion of cases diagnosed gastric ulcer, and that more of these would be female; and also I was surprised to find ten cases of duodenal ulcer in women. In four of the ten cases the diagnosis was confirmed at operation. The gastric cases had an average stay in hospital of five and four-fifths weeks, and the duodenal cases six weeks, representing a cost to the hospital of about £1,330. Fourteen per cent. had a family history of disease of the stomach; in four per cent. this disease was cancer of the stomach. Inquiry into occupation revealed nothing.

The diagnosis of gastric conditions may be said to rest on a tripod—(1) clinical examination, (2) X-ray appearances, and (3) analysis of gastric contents. In clinical examination one frequently finds the symptoms more informative than the physical signs. The outstanding symptom was pain. In one-third of the gastric cases, pain

occurred as long as from one and a half to two hours after food; and in four duodenal cases it occurred soon after food, so that apparently there are frequent exceptions to the time-honoured rule. In only nine of the duodenal histories did I find the classical story of *night* pain relieved by food.

One patient had a definite anorexia: he had duodenal ulcer, with a marked hyperchlorhydria, and reports some five years later that he is very well, except for occasional flatulence.

Hæmatemesis of some degree is mentioned in the histories in forty-seven per cent. of gastric and twenty per cent. of duodenal cases. I cannot quote exact figures for the finding of positive occult blood in stools, but I feel that I should have made more extensive use of this test.

The average duration of symptoms before admission to hospital was three and a half years in the gastric cases and six years in the duodenal cases. Remissions occurred in forty-seven per cent. of the gastric cases and ninety per cent. of the duodenal; in both groups these remissions varied from a few days to more than a year.

The physical signs in many cases were very indefinite: almost all had bad teeth, but a few had good teeth and some had dentures. Almost all had some degree of epigastric tenderness. The presence of splashing on palpation of the stomach is of greatest value when four hours have elapsed since the last meal.

X-ray examination was regarded as a most important part of each patient's investigation, but in certain cases radiology merely adds to our difficulties.

In this series, HCl was found to be present in excess in every case: the average highest figure was forty-one in the gastric cases, and 53.4 in the duodenal cases. Amelioration of symptoms as a result of alkaline treatment is certainly not invariably followed by diminution of the HCl in the gastric juice; the reverse may be the case, as in a recent private patient, whose first F.T.M. showed an apparent absence of the HCl and the presence of much thick, greenish mucus, while after three weeks of intensive alkaline treatment the mucus had disappeared and the curve of HCl was typical of duodenal ulcer.

Of the relative value of these three criteria it is difficult to be dogmatic. While it is highly improbable that everyone who experiences hunger pain has a duodenal ulcer, it is equally probable that a definite history of persistently recurrent pain of this type may justify the diagnosis even when X-ray and other findings are doubtful; in such cases Hurst lays increasing stress on the value of tests for occult blood in stools.

As I have said, X-ray may be uncertain, but on the other hand may be most valuable: the presence of a definite niche in the stomach outline, of a filling defect, or of an hour-glass stomach, constitutes incontrovertible evidence. The significance of six-hour retention is less certain: when I was an out-patient physician I referred all patients with gross six-hour retention to surgical wards; but the real problem is the patient with slight six-hour retention, and I think that every such case must be decided on its merits.

Apart from its value as a method of treatment, I think that the intensive alkaline treatment is an extremely valuable diagnostic method in this respect, that when a

patient with a supposed duodenal ulcer has been under this treatment for seven days without marked improvement, it is very likely that the diagnosis is wrong, and at least it is certain that the whole matter should be carefully reconsidered. In my experience, the likeliest sources of trouble in such cases are the appendix and the gall-bladder, but neurological conditions both functional and organic must be remembered, for the stomach is an emotional organ in some people, and gastric crises of tabes turn up with unfailing regularity.

Apart from gastric crisis, syphilis may be an unexpected factor, as in the following case: A nurse aged 38 was admitted with a history of ten years of stomach trouble, for which she had received in-patient treatment in the Royal Victoria Hospital some eight years before; she had severe pain, worst about two hours after food, and had been vomiting almost incessantly for a week. X-ray examination showed evidence of a large penetrating ulcer of the lesser curvature. She was seen by a surgeon, who advised gastrectomy. My house physician, Dr. S. Anderson, noticed that evening that her pupils were unequal, and had a Wassermann done; it was positive, and active specific treatment was commenced. No other symptoms of nervous syphilis were found, and the inequality of the pupils was not again noticed, but her symptoms disappeared rapidly, and a subsequent radiogram showed a normal gastric outline at six hours. This was in 1928, and she remains well.

About two months ago I was going round my ward and found a patient with his urinary bladder painlessly distended up to his epigastrium; he had been admitted with a history of hæmatemesis. Careful examination revealed sluggish pupils and an abdominal zone of impaired sensation, together with pains of lightning type. His Wassermann of blood and C.S.F. was positive. He responded quickly to specific treatment.

Another group of cases where the patient's failure to respond to treatment will be of importance, is the group where there is a complicating factor, notably local peritonitis due to chronic perforation, or adhesion to a neighbouring viscus, or, more important still, where the lesion is malignant.

Of these ninety-one people who underwent at least four weeks alkaline treatment, sixty-eight gained in weight during treatment, an average gain of four and a half pounds in the duodenal group, and three and a half in the gastric; the highest recorded gain was twenty pounds in five weeks. Fourteen lost weight, and I think this was frequently due to worry either about their health or more frequently about their domestic affairs. Broadly speaking, those who gained weight did better than those who did not, but some of those who lost weight in hospital gained it quite satisfactorily after discharge.

No patient developed alkalosis: I have frequently had blood urea estimations done to try to detect early alkalosis, but have never done so. My ward sister is asked to report distaste for food as a possible warning symptom.

In thirteen cases, or 17.5 per cent. of the whole group, medical treatment was considered to have failed after four-weeks course of treatment. (This does not include the many cases, not here reviewed, who were admitted in the first instance to the ward and referred almost at once to surgical colleagues). Of these thirteen,

eight were operated on before leaving hospital : in three of the eight evidence of a *healed* ulcer was found, and one wonders why their symptoms had persisted; the remaining five found their way to the surgeons at a later date, one because of acute perforation, and two of the five report no improvement as a result of their surgical adventure.

Of the remainder, the results may be briefly tabulated as follows :—

GASTRIC CASES.		DUODENAL CASES.	
Cured -	5 = 29.4 per cent.	Cured -	18 = 24.3 per cent.
Improved -	5 = 29.4 per cent.	Improved -	19 = 25.6 per cent.
Not traced -	7 = 41 per cent.	Not traced -	13 = 17.5 per cent.
		No improvement	7 = 9.5 per cent.
		Died (various causes) -	4 = 5.4 per cent.

It will be seen at once that the value—if there is any—of this relatively limited inquiry is considerably minimized by the large number of cases which could not be traced, and this in spite of the fact that I enlisted the help of Dr. Barron and the Public Health nurses. One reason may be that when work is scarce the class from which such patients are drawn becomes more migratory in search of employment, or certain individuals may give up their own houses and go to live with relatives. I recently suggested—and the medical staff acted on my suggestion—that a definite space be made on the hospital charts to record the name of the patient's own doctor; and I think that it would also be justifiable to give each patient leaving hospital a printed card requesting him to reply in person or by letter to any subsequent hospital inquiry as to his progress. On the one hand it may be argued that if a patient is well he does not want to be bothered reporting to hospital and re-examined; on the other hand the patient who is no better may think "What's the use of going back when they didn't cure me before?"

Another difficulty is that of assessing standards of cure, and in this series I have deliberately set a very high standard, only being content with complete absence of symptoms over a considerable period. Many of the twenty-four patients whom I have classified as improved, are very much better, and, with attention to their diet and the routine use of an alkaline powder, are fit for ordinary life.

This question of attention to diet is of course more difficult in the hospital class than in those more fortunately placed. Many wives are bad cooks, and even the good ones are too fond of the frying-pan.

I remember the late Professor Lindsay quoting Hippocrates to the effect that not only should the physician do his best, but the patient and the patient's relations should co-operate to promote a cure. Certainly some of these patients have *not* co-operated in their own after-care.

There is no need to repeat here the familiar details of the intensive alkaline treatment. We follow the lines laid down by Hurst, but give ten-ounce feeds instead of his five- to seven-ounce. As well as milk the following variants are used : Benger's and Allenbury's Foods, oat-flour, cream of wheat, custard, junket, milk jelly, and egg-flip. Gastric lavage is only employed where there is reason to suspect gross mucous gastritis.

The alkalis used in wards 5 and 6 are known as No. 1 and No. 2. No. 1 consists of bismuth carbonate and No. 2 of bismuth carb. three parts and cret. preparat one part. The practice seems to differ in the four medical units in the hospital: one gives magnesium tri-basic phosphate, which Hurst suggested as unlikely to give rise to alkalosis; he has since, however, contradicted this impression. Another unit uses a bism. carb. powder as No. 1 and a bismuth and sodii bicarb. powder as No. 2. The remaining unit uses McLean's powder of sodii bicarb., mag. carb., pond calcis carb., and bism. carb. I have no particular argument to offer for the bismuth and chalk choice, except perhaps that it avoids the use of sodii bicarb., described by Hurst as the greatest stimulant of acid in existence, and that bismuth should have an antiseptic effect or at least an inhibitory effect on certain organisms.

After three weeks a modified diet is given. This includes a lightly boiled or poached egg at breakfast, and steamed fish or minced chicken at dinner.

When the patient leaves hospital he is given written instructions about his diet. The difficulty of obtaining food during his working hours is met by advising him to take a clean bottle of milk and an air-tight biscuit tin containing four plain "water" biscuits, two to be taken with half a pint of milk at 11 a.m. and at 4 p.m.

It may be of interest to mention our routine treatment of hæmatemesis: On admission, morphia gr.  $\frac{1}{4}$  hypodermically; hæmostatic serum 2 c.c.; small fragments of ice by mouth. If the condition is not obviously grave, a soap and water enema is given. If it is, steps are taken for early blood transfusion. For the first forty-eight hours glucose saline is given per rectum four-hourly; on the third day feeds of albumin water, two ounces two-hourly; on the fourth day three-ounce feeds of albumin water and citrated milk alternately, two-hourly; on the fifth day five-ounce feeds, two-hourly. On the third, fourth, and fifth days a saline is given rectally night and morning. From the sixth day the routine treatment of gastric ulcer is commenced.

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## Changes in General Practice During Forty Years

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Aghadowey

I HAVE seen it stated quite recently by a layman of some importance that there was no improvement in medical treatment, that it was "senna and salts" when he was a boy and it was "senna and salts" to-day. I think very few will agree with this statement.

In the course of this paper I shall endeavour to show that both medical and surgical treatment have improved enormously during the past forty years, and that the lot of the general practitioner has been made much easier in almost every way.

In the old days the only means of locomotion was the horse and trap, and in some cases the bicycle. The bicycle was too much like hard work to appeal to most people, and the horse was in many cases little affected by the modern craze for